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Shaping Lives...
Empowering Communities...

Center for Smart Agriculture

Hydroponics technology



Module 1: Prerequisites for hydroponics technology

Session 4 : Plant structure, photosynthesis, characteristics of different root-zone factors and their application

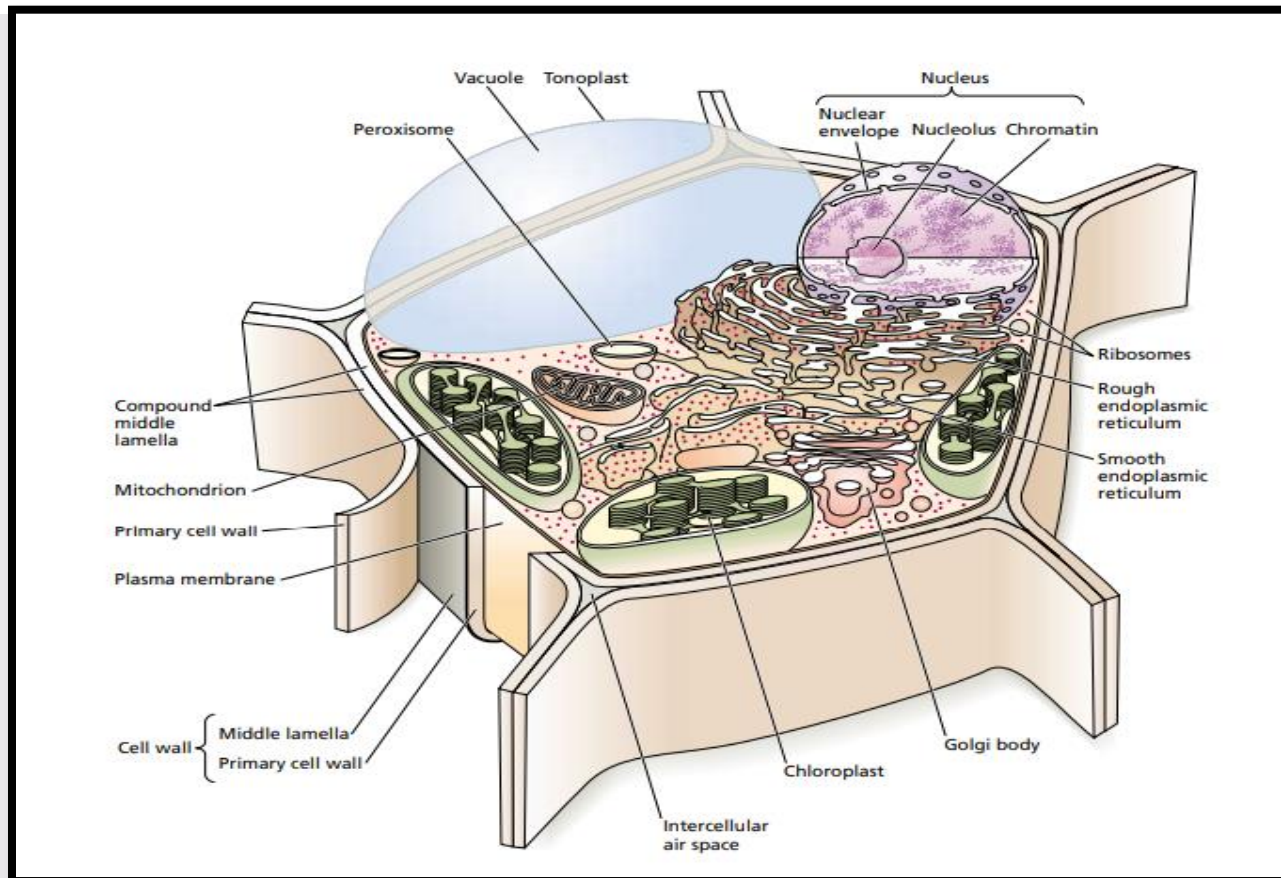


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Plant Cell Structures

Structures found in plant cells but not animal cells include a large central vacuole, cell wall, and plastids such as chloroplasts.



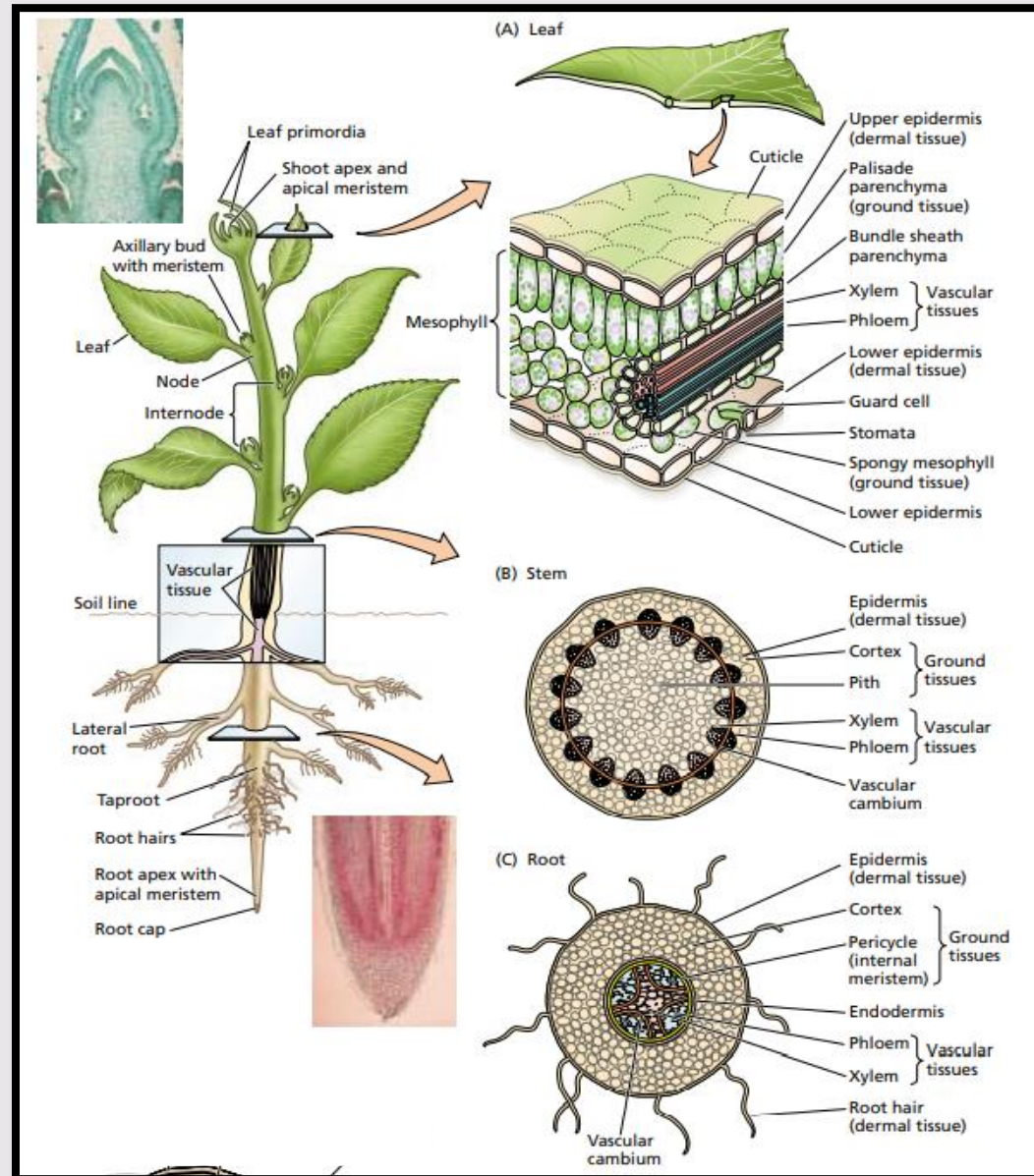
Source: *Plant Physiology*, by Taiz and Zeiger



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Schematic representation of primary and secondary cell walls and their relationship to the rest of the cell



Source: *Plant Physiology*, by Taiz and Zeiger

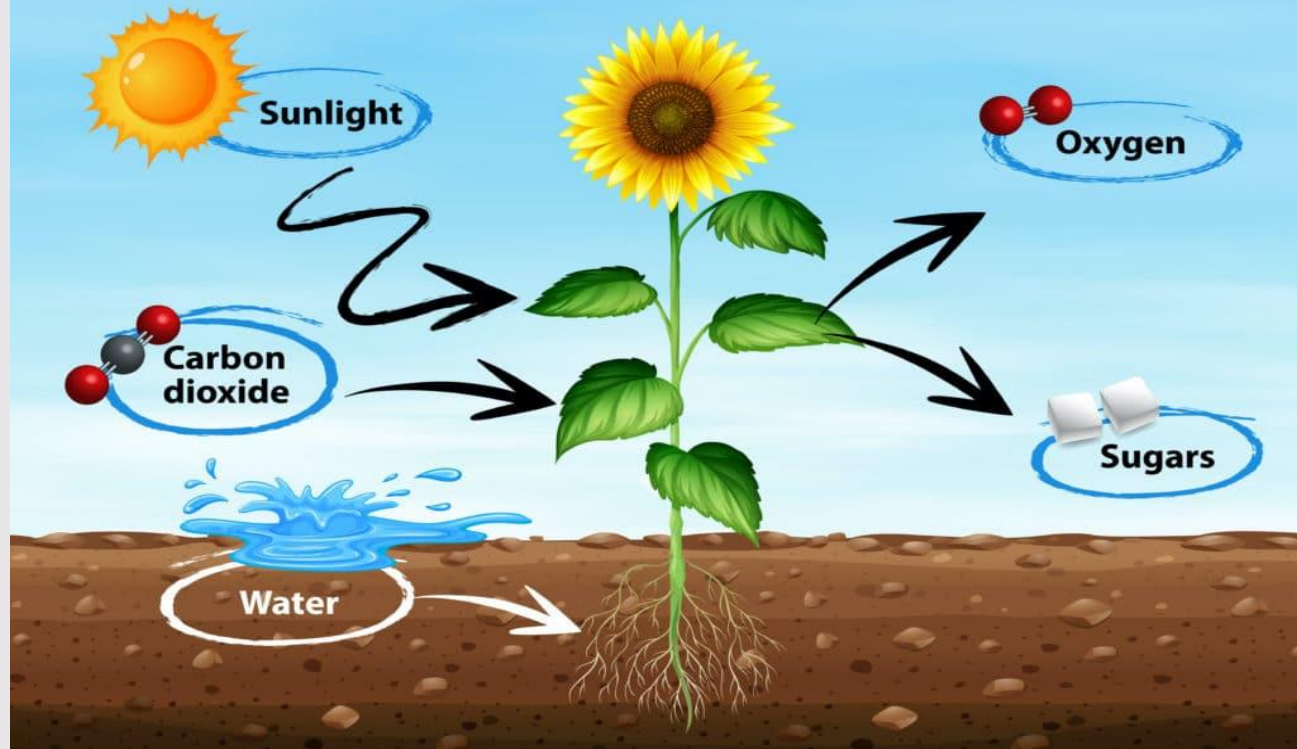


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Photosynthesis

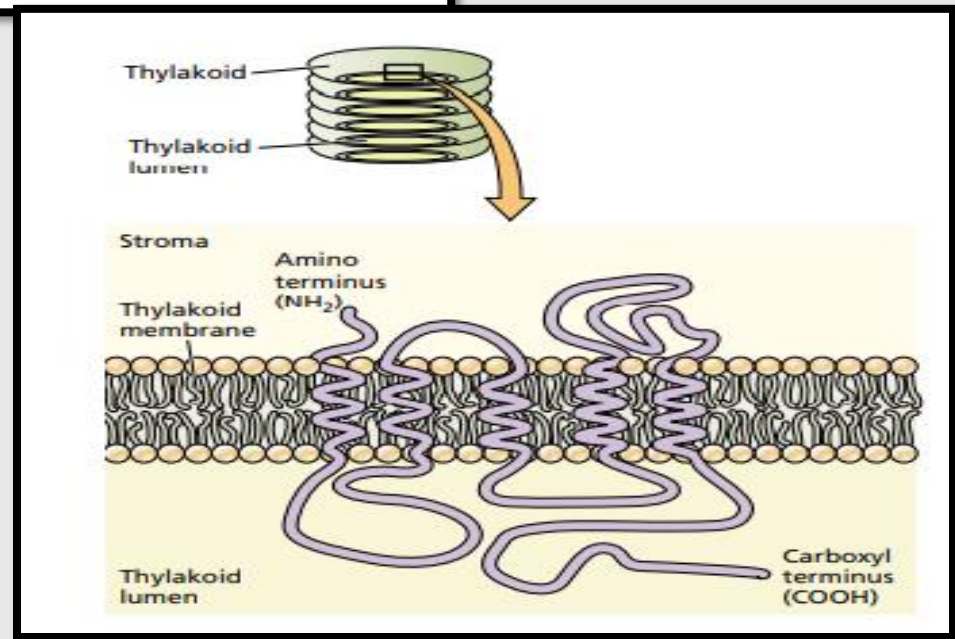
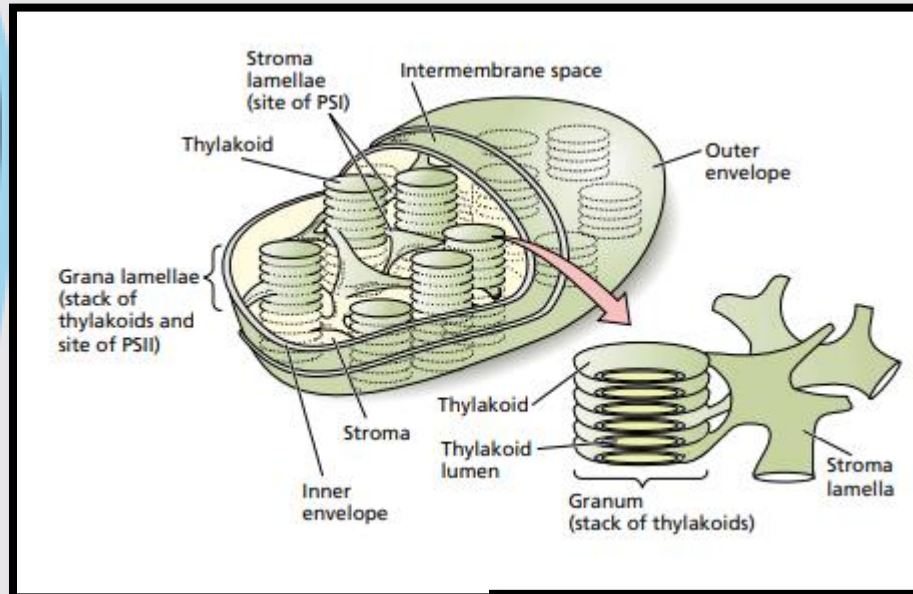
Process of Photosynthesis





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Photosynthesis apparatus



Source: *Plant Physiology*, by Taiz and Zeiger



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Root Zones

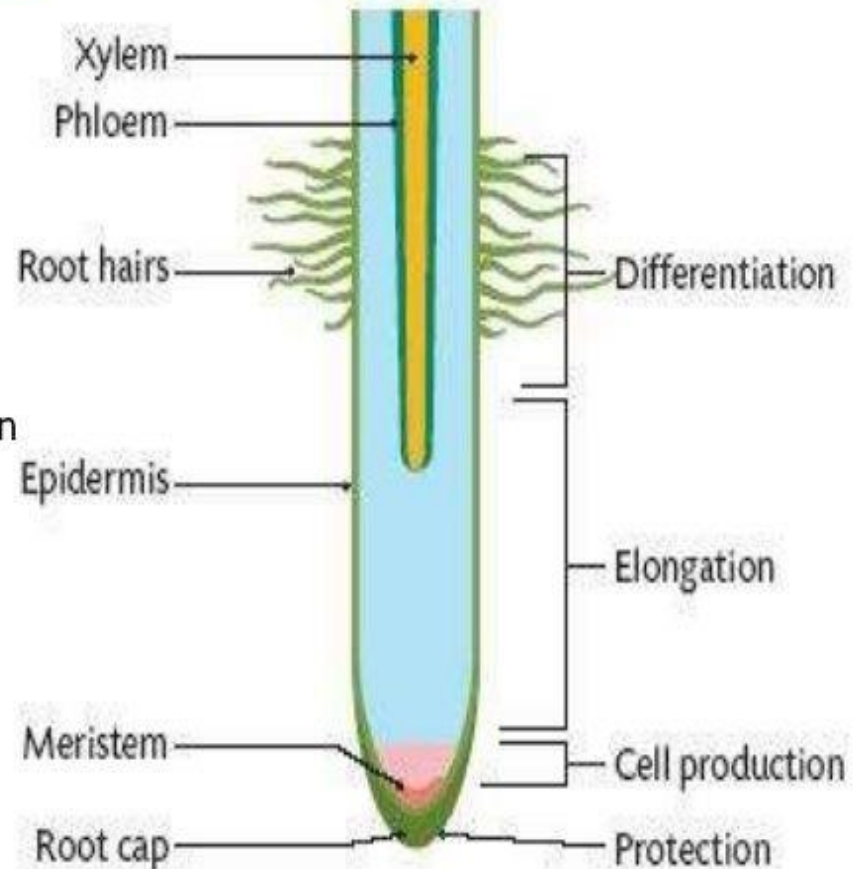


PLANTS

Structures

The Roots: 4 zones

- Zone of maturation:** cells differentiate into different types of cells.
- Zone of elongation:** allows the root to get deeper within the soil
- Meristematic region:** rapid mitosis of undifferentiated meristematic cells.
- Root cap:** protects the meristematic region.





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Thank you.....